WHAT IS CLAIMED IS:

1. A method of preventing or treating a bacterial gastrointestinal infection in a human, comprising the steps of:

a) orally administering to a human subject a composition comprising viable colony forming units (CFU) of a non-pathogenic lactic acid bacteria; and

b) allowing said bacteria to grow in the human subject's gastrointestinal tract.

2. The method of Claim 1, wherein the human subject is an infant at risk for Sudden Infant Death Syndrome.

3. The method of claim 1 wherein said non-pathogenic lactic acid bacteria is selected from the group consisting of include *Lactobacillus acidophilus*, *Lactobacillus salivarius*, *Lactobacillus g.g.*, *Lactobacillus planterum*, *Lactobacillus delbrukeii*, *Lactobacillus sporegenes*, *Lactobacillus rhamnosus*, *Lactobacillus casei*, *Bifidobacterium longum*, *Bifidobacterium bifidum*, *Bifidobacterium infantus*, *Bacillus coagulans*, *Bacillus subtilis*, *Bacillus laterosporus* and *Bacillus laevolacticus*

4. The method of claim 1, wherein the said bacteria is included in the composition in the form of spores.

5. The method composition of claim 1, wherein said bacteria is included in the composition in the form of a dried cell mass.

6. The method of claim 1 wherein said bacteria is in the form of spores, and said method further comprises allowing the spores to germinate after the applying step.

7. The method of claim 1 wherein said composition contains 10^3 to 10^{12} CFU of viable bacteria or spores per gram of composition.

8. The method of claim 1 wherein said administering comprises introducing into the digestive tract from 0.1 to 50 grams per day of said composition.

9. The method of claim 1 wherein said administering comprises introducing into the digestive tract from 10^2 to 10^{10} viable bacteria or spores per day.

10. The method of claim 9 wherein said administering comprises introducing into the digestive tract from 10^3 to 10^6 viable bacteria or spores per day.

11. The method of claim 9 wherein said administering comprises introducing into the digestive tract from 10^6 to 10^9 viable bacteria or spores per day.

12. The method of claim 1 wherein said composition further comprises an effective amount of a bifidogenic oligosaccharide.

13. The method of claim 1 wherein said bifidogenic oligosaccharide is selected from the group consisting of fructo-oligosaccharide (FOS), gluco-oligosaccharide (GOS), raffinose, and long-chain oligosaccharides

14. The method of claim 1 wherein said oligosaccharide comprises polymers of having a polymer chain length of from about 4 to 100 sugar units.

15. The method of claim 1 wherein said composition comprises about 10 milligrams to about 1 gram of FOS per gram of composition.

16. The method of claim 1 wherein said composition comprises from 100 to 500 milligrams of FOS per gram of composition.

17. The method of claim 1 wherein said administering comprises introducing into the digestive tract from 10 milligrams to 20 grams of fructo-oligosaccharide per day.

18. The method of claim 1 wherein said administering comprises introducing into the digestive tract from 150 milligrams to 5 grams of fructo-oligosaccharide per day.

19. The method of claim 1 wherein said composition further comprises a food substance, flavoring, vitamin or mineral.

20. The method of claim 1, wherein the composition is a powdered food supplement, a packaged food, an infant formula or an oral electrolyte maintenance formulation.

21. The method of claim 20 wherein said oral electrolyte maintenance formulation is a powder comprising sodium chloride, potassium citrate, citric acid or glucose.

22. The method of claim 20 wherein said oral electrolyte maintenance formulation is rehydrated with water to produce a solution comprising 45 to 75 mEq/l of sodium, 20 mEq/l of potassium, 35 to 65 mEq/l of chloride, 30 mEq/l of citrate, 20-25 g/l of glucose and about 5 $x10^5$ to about 5 x 10^7 viable CFU of said bacteria/l.

23. The method of claim 1 wherein said composition further comprises an extracellular product of *Bacillus coagulans*.

24. The method of claim 23 wherein the extracellular product is a supernatant or filtrate of a culture of an isolated *Bacillus coagulans* strain.

25. The method of claim 1 wherein said gastrointestinal infection comprises *Staphylococcus aureus* or *Clostridium* species.

26. A therapeutic system for inhibiting bacterial gastrointestinal infection comprising a container comprising a label and a composition comprising viable colony forming units (CFU) of a non-pathogenic lactic acid bacteria wherein said label comprises instructions for use of the composition for inhibiting said infection.

27. The system of claim 26, wherein the human subject is an infant at risk for Sudden Infant Death Syndrome.

28. The system of claim 26 wherein said non-pathogenic lactic acid bacteria is selected from the group consisting of include *Lactobacillus acidophilus*, *Lactobacillus salivarius*, *Lactobacillus g.g.*, *Lactobacillus planterum*, *Lactobacillus delbrukeii*, *Lactobacillus sporegenes*, *Lactobacillus rhamnosus*, *Lactobacillus casei*, *Bifidobacterium longum*, *Bifidobacterium bifidum*, *Bifidobacterium infantus*, *Bacillus coagulans*, *Bacillus subtilis*, *Bacillus laterosporus* and *Bacillus laevolacticus*

29. The system of claim 26, wherein the said bacteria is included in the composition in the form of spores.

30. The system composition of claim 26, wherein said bacteria is included in the composition in the form of a dried cell mass.

31. The system of claim 26 wherein said bacteria is in the form of spores, and said method further comprises allowing the spores to germinate after the applying

step.

32. The system of claim 26 wherein said composition contains 10^3 to 10^{12} CFU of viable bacteria or spores per gram of composition.

33. The system of claim 26 wherein said administering comprises introducing into the digestive tract from 0.1 to 50 grams per day of said composition.

34. The system of claim 26 wherein said administering comprises introducing into the digestive tract from 10^2 to 10^{10} viable bacteria or spores per day.

35. The system of claim 34 wherein said administering comprises introducing into the digestive tract from 10^3 to 10^6 viable bacteria or spores per day.

36. The system of claim 34 wherein said administering comprises introducing into the digestive tract from 10^6 to 10^9 viable bacteria or spores per day.

37. The system of claim 26 wherein said composition further comprises an effective amount of a bifidogenic oligosaccharide.

38. The system of claim 26 wherein said bifidogenic oligosaccharide is selected from the group consisting of fructo-oligosaccharide (FOS), gluco-oligosaccharide (GOS), raffinose, and long-chain oligosaccharides

39. The system of claim 26 wherein said oligosaccharide comprises polymers of having a polymer chain length of from about 4 to 100 sugar units.

40. The system of claim 26 wherein said composition comprises about 10 milligrams to about 1 gram of FOS per gram of composition.

41. The system of claim 26 wherein said composition comprises from 100 to 500 milligrams of FOS per gram of composition.

42. The system of claim 26 wherein said administering comprises introducing into the digestive tract from 10 milligrams to 20 grams of fructo-oligosaccharide per day.

43. The system of claim 26 wherein said administering comprises introducing into the digestive tract from 150 milligrams to 5 grams of fructo-oligosaccharide per day.

44. The system of claim 26 wherein said composition further comprises a

food substance, flavoring, vitamin or mineral.

45. The system of claim 26, wherein the composition is a powdered food supplement, a packaged food, an infant formula or an oral electrolyte maintenance formulation.

46. The system of claim 45 wherein said oral electrolyte maintenance formulation is a powder comprising sodium chloride, potassium citrate, citric acid or glucose.

47. The system of Claim 45 wherein said oral electrolyte maintenance formulation is rehydrated with water to produce a solution comprising 45 to 75 mEq/l of sodium, 20 mEq/l of potassium, 35 to 65 mEq/l of chloride, 30 mEq/l of citrate, 20-25 g/l of glucose and about 5 $x10^5$ to about 5 x 10^7 viable CFU of said bacteria/l.

48. The system of claim 26 wherein said composition further comprises an extracellular product of *Bacillus coagulans*.

49. The system of claim 48 wherein the extracellular product is a supernatant or filtrate of a culture of an isolated *Bacillus coagulans* strain.

50. The system of claim 1 wherein said gastrointestinal infection comprises *Staphylococcus aureus* or *Clostridium* species.